



## Product Change Notification / JAON-07MXUP507

---

**Date:**

05-Aug-2022

**Product Category:**

8-bit Microcontrollers

**PCN Type:**

Manufacturing Change

**Notification Subject:**

CCB 4810 Final Notice: Qualification of ATP7 as an additional assembly site for selected Atmel ATXMEGA128A4U, ATXMEGA128D4 and ATXMEGA64D4 device families available in 44L VQFN (7x7x1.0mm) package.

**Affected CPNs:**

[JAON-07MXUP507\\_Affected\\_CPN\\_08052022.pdf](#)

[JAON-07MXUP507\\_Affected\\_CPN\\_08052022.csv](#)

**Notification Text:**

**PCN Status:**Final Notification

**PCN Type:**Manufacturing Change

**Microchip Parts Affected:**Please open one of the files found in the Affected CPNs section.

Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

**Description of Change:**Qualification of ATP7 as an additional assembly site for selected Atmel ATXMEGA128A4U, ATXMEGA128D4 and ATXMEGA64D4 device families available in 44L VQFN (7x7x1.0mm) package.

**Pre and Post Change Summary:**

		Pre Change	Post Change	
Assembly Site		ASE Inc. (ASE)	ASE Inc. (ASE)	Amkor Technology Philippines (P3/P4), INC. (ATP7)
Wire Material		PdCu	PdCu	CuPdAu
Die Attach Material		CRM-1076WA	CRM-1076WA	CRM1085A
Molding Compound Material		G631H	G631H	G631BQF
Lead frame	Material	C194	C194	C194FH
	Paddle size	213X213 mils	213X213 mils	217X217 mils
	DAP Surface Prep	Spot Plating	Spot Plating	PPF
		See pre and post change attachment for lead frame comparison.		

**Impacts to Data Sheet:**None

**Change Impact:**None

**Reason for Change:**To improve productivity and on-time delivery performance by qualifying ATP7 as an additional assembly site.

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**September 1, 2022 (date code: 2236)

Note: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

**Time Table Summary:**

	September 2021					>	August 2022				September 2022				
Workweek	3 6	3 7	3 8	3 9	4 0		3 2	3 3	3 4	3 5	3 6	3 7	3 8	3 9	4 0
Initial PCN Issue Date			X												
Qual Report Availability							X								
Final PCN Issue							X								

Date															
Estimated Implementation Date											X				

**Method to Identify Change:**Traceability code

**Qualification Report:**Please open the attachments included with this PCN labeled as PCN\_#\_Qual\_Report.

**Revision History:**September 13, 2021: Issued initial notification.

August 5, 2022: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on September 1, 2022. Updated post lead frame material from C194 to C194FH. Updated post lead frame DAP Surface Prep from ring plating to PPF.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

## Attachments:

[PCN\\_JAON-07MXUP507\\_Pre and Post Change Summary.pdf](#)  
[PCN\\_JAON-07MXUP507\\_Qual\\_Report.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

## Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our [PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section.

If you wish to change your PCN profile, including opt out, please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.



**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: JAON-07MXUP507**

Date:  
July 26, 2022

**Qualification of ATP7 as an additional assembly site for  
selected Atmel ATXMEGA128A4U, ATXMEGA128D4 and  
ATXMEGA64D4 device families available in 44L VQFN  
(7x7x1.0mm) package.**



## MICROCHIP Package Qualification Report

**Purpose:** Qualification of ATP7 as an additional assembly site for selected Atmel ATXMEGA128A4U, ATXMEGA128D4 and ATXMEGA64D4 device families available in 44L VQFN (7x7x1.0mm) package.

<u>Misc.</u>	Assembly site	ATP7
	BD Number	BD-000193-01
	MP Code (MPC)	35962TSXBC06
	Part Number (CPN)	ATXMEGA64D4-MHR
	MSL information	MSL-3 @260C
	Assembly Shipping Media (T/R, Tube/Tray)	BG0707 Peak Tray
	Base Quantity Multiple (BQM)	Tray – 416, T& R - 4000
	Qual ID	REQ2101704 R2101194 rev A
	CCB No	4810
<u>Lead-Frame</u>	Paddle size	217X217
	Material	C194FH
	DAP Surface Prep	PPF
	Treatment	Rough
	Process	Etched
	Lead-lock (With Locking Holes)	No
	Part Number	101420312
	Lead Plating	NiPdAu
	Strip Size	250 x 70mm
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	CRM1085A
	Conductive	Yes
<u>MC</u>	Part Number	G631BQF
<u>PKG</u>	PKG Type	VQFN
	Pin/Ball Count	44
	PKG width/size	7x7x1mm



# MICROCHIP

## Package Qualification Report

### Manufacturing Information

Assembly Lot No.	MPC	Package
ATP7222600005.000	35962TSXBC06	44L QFN 7x7
ATP7222600006.000	35962TSXBC06	44L QFN 7x7
ATP7222600007.000	35962TSXBC06	44L QFN 7x7

☒ Pass    ☐ Fail    ☐ \_\_\_\_\_

**35962 using 0.8 mils Au wire in 44 VQFN 7x7 package at MMT** is qualified the Moisture/ Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard. Redspots observed on die paddle after HAST96H and no progression observed after HAST192H. All units PASSED electrical testing.

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<b>Precondition Prior Perform Reliability Tests</b>  <b>MSL-3 @ 260C</b>	<b>Electrical Test</b> : +25°C, +85°C	JESD22-A113,	693(0)			Good Devices
	<b>External Visual Inspection</b> System: Luxo Lamp	JIP/ IPC/JEDEC J-STD-020E	693(0)	0/693	Pass	
	<b>Bake</b> 150°C, 24 hrs System: HERAEUS		693(0)			
	<b>Moisture Soak</b> 30°C/60%RH Moisture Soak 192hrs. System: Climats Excal 5423-HE		693(0)			
	<b>Reflow</b> 3x Convection-Reflow 260°C max System: Mancorp CR.5000F		693(0)	0/693		
	<b>Electrical Test</b> : +25°C, +85°C		693(0)	0/693	Pass	

<b>Temp Cycle</b>	<b>Stress Condition:</b> (Standard) -65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	231(0)			Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +85°C		231(0)	0/231	Pass	
	<b>Bond Strength:</b> Wire Pull Bond Shear		15(0)	0/15	Pass	
	<b>Stress Condition:</b> (Standard) -65°C to +150°C, 1000 Cycles System: VOTSCH VT 7012 S2		213(0)			
	<b>Electrical Test:</b> +85°C  <b>Bond Strength:</b> Wire Pull Bond Shear		213(0)	0/213	Pass	
			15(0)	0/15	Pass	

<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	231(0)			Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C		231(0)	0/231	Pass	
	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 192H System: HIRAYAMA HASTEST PC-422R8		231(0)			
	<b>Electrical Test:</b> +25°C		231(0)	0/231	Pass	



<b>BIASED-HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	231(0)			Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C, +85°C		231(0)	0/231	Pass	
	<b>Bond Strength:</b> Wire Pull Bond Shear		15(0)	0/15	Pass	
	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 192H System: HIRAYAMA HASTEST PC-422R8		213(0)			
	<b>Electrical Test:</b> +25°C, +85°C		213(0)	0/213	Pass	
	<b>Bond Strength:</b> Wire Pull Bond Shear		15(0)	0/15	Pass	
	<b>Cross Section</b>		3(0)	0/3	Pass	

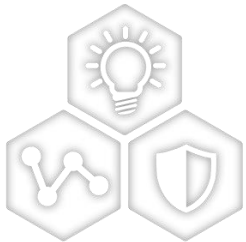
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 500 hrs System: HERAEUS  <b>Electrical Test :</b> +25°C +85°C	JESD22-A103	45 (0)  45 (0)	0/45	Pass	
<b>Solderability Temp 245°C</b>	<b>Bake:</b> Temp 155°C, 4Hrs System: Oven Solder Bath: Temp. 245°C	J-STD-002	22 (0)	0/22	Pass	Performed at MPHIL
<b>Physical Dimensions</b>	Physical Dimension, 10 units from 3 lot	JESD22-B100/B108	30(0)	0/30	Pass	
<b>Bond Strength Data Assembly</b>	Wire Pull  1 lot, 35 wires from 5 units min	M2011.8  MIL-STD-883	35(0) Wires	0/35	Pass	
<b>Bond Strength Data Assembly</b>	Bond Shear  1 lot, 35 bonds from 5 units min	M2011.8  MIL-STD-883	35(0) bonds	0/35	Pass	

**CCB 4810**  
**Pre and Post Change Summary**  
**PCN#: JAON-07MXUP507**



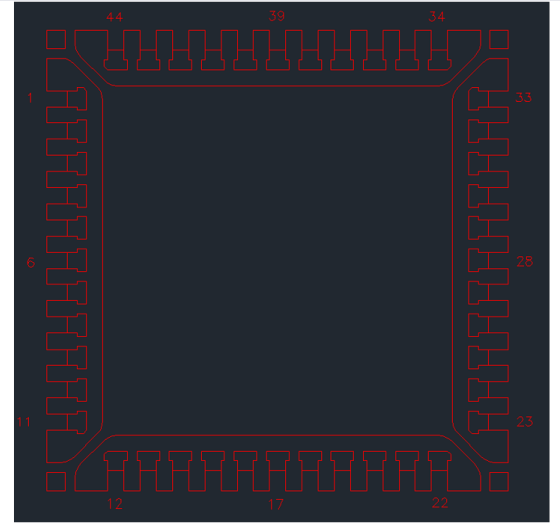
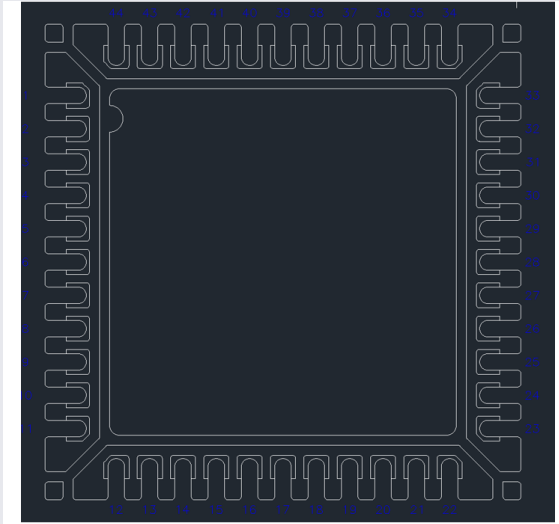
---

A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



SMART | CONNECTED | SECURE

# Lead frame comparison

Pre change	Post Change												
ASE	ATP7												
													
<table><tr><td>Lead frame material</td><td>C194</td></tr><tr><td>Lead frame Paddle size</td><td>213x213 mils</td></tr><tr><td>Lead frame DAP surface Prep</td><td>Spot Plating</td></tr></table>	Lead frame material	C194	Lead frame Paddle size	213x213 mils	Lead frame DAP surface Prep	Spot Plating	<table><tr><td>Lead frame material</td><td>C194FH</td></tr><tr><td>Lead frame Paddle size</td><td>217x217 mils</td></tr><tr><td>Lead frame DAP surface Prep</td><td>PPF</td></tr></table>	Lead frame material	C194FH	Lead frame Paddle size	217x217 mils	Lead frame DAP surface Prep	PPF
Lead frame material	C194												
Lead frame Paddle size	213x213 mils												
Lead frame DAP surface Prep	Spot Plating												
Lead frame material	C194FH												
Lead frame Paddle size	217x217 mils												
Lead frame DAP surface Prep	PPF												

JAON-07MXUP507 - CCB 481C ATXMEGA128D4 and ATXMEGA64D4 device families available in 44L VQFN (7x7).

Affected Catalog Part Numbers(CPN)

ATXMEGA128A4U-MH

ATXMEGA128D4-MH

ATXMEGA64D4-MH

ATXMEGA128D4-MHR

ATXMEGA128A4U-MHR

ATXMEGA64D4-MHR